



STANDARDS OF APPRENTICESHIP
adopted by

**COWLITZ AND WAHAKIYAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE**

<u>Skilled Occupational Objective(s):</u>	<u>(sponsor)</u>	<u>DOT and/or SOC</u>	<u>Term</u>
APPLIANCE SERVICEMAN		827.261-010	8000 HOURS
CONSTRUCTION AND INDUSTRIAL ELECTRICIAN		824.261-010	8000 HOURS
MAINTENANCE ELECTRICIAN		829.281-014	8000 HOURS
MOTOR REWINDER		721.261-010	8000 HOURS
NEON & ELECTRIC SIGN ELECTRICIAN		824.281-018	8000 HOURS
RADIO-TELEVISION		720.281-018	8000 HOURS
RESIDENTIAL WIREMAN		824.261-010	4000 HOURS
SOUND COMMUNICATION & ELECTRONIC CONTROL		829.281-022	8000 HOURS



APPROVED BY
Washington State Apprenticeship and Training Council
REGISTERED WITH
Apprenticeship Section of Specialty Compliance Services Division
Washington State Department Labor and Industries
Post Office Box 44530
Olympia, Washington 98504-4530

APPROVAL:

DECEMBER 12, 1941
Initial Approval

APRIL 21, 2006
Committee Amended

JULY 19, 2002
Standards Amended (review)

APRIL 22, 2005
Standards Amended (administrative)

By: MELINDA NICHOLS
Chair of Council

By: PATRICK WOOD
Secretary of Council

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

The Washington State Apprenticeship and Training Council (WSATC) has the authority to develop, administer, and enforce apprenticeship program standards (Standards) for the operation and success of an apprenticeship and training program in the State of Washington.

Apprenticeship programs and committees function, administer, or relinquish authority only with the consent of the WSATC and only apprentices registered with the supervisor or recognized under the terms and conditions of a reciprocal agreement will be recognized by the WSATC. Parties signatory to these Standards declare their purpose and policy is to establish and sponsor an organized system of registered apprenticeship training and education.

These Standards are in conformity and are to be used in conjunction with the Apprenticeship Rules, Chapter 296-05 WAC (Washington Administrative Code); Apprenticeship Act, Chapter 49.04 RCW (Revised Code of Washington); The National Apprenticeship Act, 29 U.S.C. (United States Code) 50; Apprenticeship Programs, Title 29 Part 29 CFR (Code of Federal Regulations); and Equal Employment Opportunity in Apprenticeship and Training, Title 29 Part 30 CFR which govern employment and training in apprenticeable occupations. They are part of this apprenticeship agreement and bind all signers to compliance with all provisions of registered apprenticeship. Additional information may need to be maintained by the program that is supplemental to these apprenticeship standards. This information is for purposes of ensuring compliance with decisions of the WSATC and the apprenticeship laws identified above.

If approved by the council, such amendment/s and such changes as adopted by the council shall be binding to all parties. Sponsors shall notify apprentices of changes as they are adopted by the council. If and when any part of these Standards becomes illegal, as pertains to federal and/or state law, that part and that part alone will become inoperative and null and void, and the Department of Labor and Industries (L&I) may adopt language that will conform to applicable law. The remainder of the Standards will remain in full force and effect.

See WAC 296-05-003 for the definitions necessary for use with these Standards.

The following Standards for the development of apprentices in the various branches of the electrical trade have been prepared by the Cowlitz County Electrical Contractors and the International Brotherhood of Electrical Workers Local Union No. 970.

I. GEOGRAPHIC AREA COVERED:

The sponsor has no authority to conduct training outside of the geographical area covered by these Standards. The sponsor may enter into an agreement (portability agreements – see WAC 296-05-303(3)) with other apprenticeship committees for the use of apprentices by training agents that are working outside their approved geographic area. Also, if a reciprocity agreement (see WAC 296-05-327) is in place, the out-of-state sponsor may use their registered apprentices. The sponsor will ensure compliance with the provisions of any agreement recognized by the WSATC.

All of Cowlitz and Wahkiakum Counties, Washington.

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

II. MINIMUM QUALIFICATIONS:

Minimum qualifications must be clearly stated and applied in a nondiscriminatory manner (see WAC 296-05-316).

A pool of eligible applicants shall be established consisting of individuals who qualify for oral interview.

To qualify for the oral interview an applicant must meet the following basic requirements unless he/she has a minimum of 4000 hours of substantiated electrical construction work experience.

Age: At least 18 years of age.

Education: High school graduates or the equivalent and/or have successfully passed the General Education Development test. Must provide official transcript or transcripts for high school or post high school showing courses and grades. Transcript must show completion of one full year of high school algebra with a passing grade of "C" or better for each semester, or five credits of college level algebra with at least a "C" grade. Pre-algebra will not be accepted. Applicants must contact their high school and colleges, have schools mail transcripts directly to this office. All transcripts and supporting documents must be received at this office within 30 days of making application.

Physical: Able to meet the requirements of the trade.

Testing: Must take the NJATC aptitude Test administered by a test administrator approved by the NJATC. A fee will be charged based on actual cost of test.

Other: None

III. CONDUCT OF PROGRAM UNDER WASHINGTON EQUAL EMPLOYMENT OPPORTUNITY PLAN:

Sponsors with five (5) or more apprentices must adopt an Equal Employment Opportunity (EEO) Plan and Selection Procedures (see Part D of Chapter 296-05 WAC and 29 CFR Part 30).

The recruitment, selection, employment and training of apprentices during their apprenticeship shall be without discrimination because of race, sex, color, religion,

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

national origin, age, disability or as otherwise specified by law. The sponsor shall take positive action to provide equal opportunity in apprenticeship and will operate the apprenticeship program as required by the rules of the Washington State Apprenticeship and Training Council and Title 29, Part 30 of the Code of Federal Regulations. (WAC 296-05-316(3))

A. Selection Procedures:

1. Construction and Industrial Electrician

- a. **Applications will be available to anyone who is interested regardless of any other consideration. Information on the program and openings is available at 1145 Commerce Ave. Longview, WA.**
- b. **The fact that applications are available shall be made known to the local apprenticeship representative of the Bureau of Washington State Apprenticeship and Training, U.S. Department of Labor, and the Washington State Apprenticeship Council.**
- c. **All application blanks will be serial numbered so that they can be accounted for.**
- d. **Applications will be available on the first Thursday of each month, applications must be filled out in person at 1145 Commerce Ave. Longview Washington from 8:30am -11:30am and 2:00pm - 4:30pm. Photo identification will be required at the time of application.**
- e. **There will be a book set up in which each line carries a number corresponding to the serial number of an application. Columns will be provided to show the progress, by dates, and final disposition of each application.**
- f. **Information on apprenticeship openings and application process will be available at IBEW Local 970 located at 1145 Commerce Avenue, Longview, WA and from participating employers throughout the area.**
- g. **Interviews will be granted to all applicants who successfully pass the aptitude test, applicants wishing to re-interview must show proof of improved qualifications (further schooling, work experience, etc.). Applicants who have interviewed will be placed on a list of eligibles.**
- h. **Those not accepted in the interview on account of lack of qualifications will not be reconsidered unless they have improved their qualifications in some way (further schooling, etc.), and shall be so notified.**

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

- i. Prior to being accepted into this program, applicants will be required to take a substance abuse test and pass with a negative result".

Exceptions:

- j. An employee of a non-signatory employer, not qualifying as a journey-level worker when the employer becomes signatory, shall be evaluated by the JATC and registered to the appropriate period of apprenticeship based on previous work experience and related training.
- k. An individual who signs an authorization card during an organizing effort, whether or not the employer becomes signatory, an individual not qualifying as a journey-level worker shall be evaluated by the JATC and registered at the appropriate period of apprenticeship based on previous work experience and related training.

2. **Motor Rewinder, Maintenance Electrician, Radio/Television, Appliance Serviceman, Sound Communication and Electronic Control, Neon & Electric Sign Electrician:**

Selection will be done by the employer through their normal promotion and employee selection processes. Selected apprentices will be referred to the Joint Apprenticeship and Training Committee. The applicant will submit proof of meeting the minimum qualifications and the Committee will register the apprentice with the registration agency.

3. **Residential Wireman:**

- a. Applications will be available to anyone who is interested regardless of any other consideration. Information about the program and openings can be obtained at 1145 Commerce Ave. Longview, WA.
- b. The fact that applications are available shall be made known to the local apprenticeship representative of the Bureau of Apprenticeship and Training, U.S. Department of Labor, and the Washington State Apprenticeship and Training Council.
- c. All application blanks will be serial numbered so that they can be accounted for.
- d. Applications will be available on the first Thursday of each month, applications must be filled out in person at 1145 Commerce Ave. Longview, Washington from 8:30am -11:30am and 2:00pm - 4:30pm. Photo identification will be required at the time of application.

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

- e. **There will be a book set up in which each line carries a number corresponding to the serial number of an application. Columns will be provided to show the progress, by dates, and final disposition of each application.**
- f. **Information on apprenticeship openings and application process will be available at IBEW Local 970 located at 1145 Commerce Avenue, Longview, WA and from participating employers throughout the area.**
- g. **Interviews will be granted to all applicants who successfully pass the aptitude test, applicants wishing to re-interview must show proof of improved qualifications (further schooling, work experience, etc.). Applicants who have interviewed will be placed on a list of eligibles.**
- h. **Applicants placed on the list of eligibles will be purged from the list after two years.**
- i. **Selection will be from the pool of eligibles established by the J.A.T.C.**
- j. **The pool of eligibles will be established from those individuals that meet the minimum qualifications for Construction/Industrial Electrician but were not chosen for that pool of eligibles.**

Exceptions:

- k. **An employee of a non-signatory employer, not qualifying as a journey-level worker when the employer becomes signatory, shall be evaluated by the JATC and registered to the appropriate period of apprenticeship based on previous work experience and related training.**
- l. **An individual who signs an authorization card during an organizing effort, whether or not the employer becomes signatory, an individual not qualifying as a journey-level worker shall be evaluated by the JATC and registered at the appropriate period of apprenticeship based on previous work experience and related training.**

B. Equal Employment Opportunity Plan:

- 1. **Distributing information about the nature of apprenticeship programs, program admission requirements, current apprenticeship opportunities sources of apprenticeship applications, and the equal opportunity policy of the sponsor.**
- 2. **Participating in workshops conducted by employment service agencies, school districts, and community based organizations to increase apprenticeship program awareness of apprenticeship opportunities.**

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

3. **Increasing awareness of a sponsor's equal opportunity policy within the sponsor's organization. The goal of this increased awareness within the sponsor's organization is to foster understanding, acceptance and support among the sponsor's various officers' supervisor's, employees, employers, and members. This is to encourage the necessary active assistance in achieving the program's obligations required by these rules.**
4. **Granting to all applicants, with out prejudice, advance standing or credit for previously acquired experience, training, skills, or aptitude**

Discrimination Complaints.

Any apprentice or applicant for apprenticeship who believes they have been discriminated against may file a complaint (WAC 296-05, Part D).

IV. TERM of APPRENTICESHIP:

The minimum term of apprenticeship must not be less than 2000 hours or 12 months of work experience in each occupation identified in these Standards as apprenticeable. The term of apprenticeship must be stated in hours or months of employment.

- A. **Construction and Industrial Electrical apprentices: 8,000 hours of reasonably continuous employment.**
- B. **Residential wiremen: Not less than 2 years or approximately 4,000 hours of reasonably continuous employment.**
- C. **Maintenance Electrician, Motor Rewinder, Radio-Television, Appliance Servicemen, Sound Communication, Electronic Control, and Neon and Electrical Sign Electrical Apprentices: 8,000 hours of reasonably continuous employment.**

V. INITIAL PROBATIONARY PERIOD:

All apprentices are subject to an initial probationary period, stated in hours or months of employment for which they receive full credit toward completion of apprenticeship. Advance credit/standing will not reduce the initial probationary period. The initial probationary period:

- Is the period following the apprentice's acceptance into the program and during which the apprentice's appeal rights are impaired. The initial probation must not exceed twenty percent (20%) of the term of apprenticeship unless an exemption

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

by the WSATC has been granted for longer probationary periods as specified by Civil Service or law.

- Is the period that the WSATC or the supervisor of apprenticeship may terminate an apprenticeship agreement at the written request by any affected party. The sponsor or the apprentice of the apprenticeship agreement may terminate the agreement without a hearing or stated cause. An appeal process is available to apprentices who have completed the initial probationary period.

- A. Construction and Industrial Electrical apprentices: first 1,600 hours of employment and first year of Supplemental/Related Training.**
- B. Residential wireman: Not exceeding the first 800 hours of employment.**
- C. Motor Rewinder, Radio-Television, Appliance Serviceman, Sound Communications & Electronic Control, and Neon & Electrical Sign Electrician: Not exceeding the first 1,600 hours of employment.**

VI. RATIO OF APPRENTICES TO JOURNEY LEVEL WORKERS:

Supervision is the necessary education, assistance, and control provided by a journey-level employee that is on the same job site at least seventy-five percent of each working day, unless otherwise approved by the WSATC. The sponsor will assure that apprentices are under the supervision of competent and qualified journey-level workers on the job who are responsible for the work being performed, to ensure safety and training in all phases of the work. Apprentices will work the same hours as journey-level workers, EXCEPT where such hours may interfere with related/supplemental instruction. (see WAC 296-05-316(5))

- A. Construction and Industrial Electrician: One (1) apprentice up to first three (3) journey-level workers, second apprentice after the fourth journey-level worker, third apprentice after the seventh journey-level worker ... continuing this ratio, on each job site.**

- 1 apprentice - 1st journey-level worker**
2nd journey-level worker
3rd journey-level worker
- 2 apprentices - 4th journey-level worker**
5th journey-level worker
6th journey-level worker
- 3 apprentices - 7th journey-level worker**
8th journey-level worker
9th journey-level worker
Continuing this ratio, on each job site.

**COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE**

B. Residential wireman: One (1) apprentice to one (1) journey-level worker on each job site.

C. Maintenance Electrician, Motor Rewinder, Radio-Television, Appliance Servicemen, Sound Communication & Electronic Control, and Neon & Electric Sign Electrician: One (1) apprentice to three (3) journey-level workers on each job site.

VII. APPRENTICE WAGES and WAGE PROGRESSION:

The apprentice will be paid a progressively increasing schedule of wages based on specified percentages of journey-level wage consistent with skills acquired. These may be indicated in hours or monthly periods set by the sponsor. The entry wage will not be less than the minimum wage prescribed by the Fair Labor Standards Act, where applicable, unless a higher wage is required by other applicable federal law, state law, respective regulations, or by collective bargaining agreement.

The sponsor may accelerate, by an evaluation process, the advancement of apprentices who demonstrate abilities and mastery of the occupation to the level for which they are qualified. When the apprentice is granted advanced standing the sponsor must notify the employer/training agent of the appropriate wage per the wage progression schedule specified in these Standards.

A. Construction and Industrial Electrician:

Step	Number of hours/months	Percentage of journey-level rate
1	0000 - 1000 hours	40%
2	1001 - 2000 hours	50%
3	2001 - 3500 hours	60%
4	3501 - 5000 hours	70%
5	5001 - 6500 hours	80%
6	6501 - 8000 hours	90%

B. Radio-Television, Appliance Serviceman, Sound Communication & Electronic Control:

Step	Number of hours/months	Percentage of journey-level rate
1	0000 - 1000 hours	60%
2	1001 - 2000 hours	65%
3	2001 - 3000 hours	70%
4	3001 - 4000 hours	75%
5	4001 - 5000 hours	80%
6	5001 - 6000 hours	85%

**COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE**

7	6001 - 7000 hours	90%
8	7001 - 8000 hours	95%

C. Maintenance Electrician and Motor Rewinder:

Step	Number of hours/months	Percentage of journey-level rate
1	0000 - 1000 hours	85.69%
2	1001 - 2000 hours	86.53%
3	2001 - 3000 hours	88.21%
4	3001 - 4000 hours	89.90%
5	4001 - 5000 hours	91.58%
6	5001 - 6000 hours	94.79%
7	6001 - 8000 hours	97.47%

D. Residential Wireman:

Step	Number of hours/months	Percentage of journey-level rate
1	0000 - 1000 hours	40%
2	1001 - 2000 hours	50%
3	2001 - 3000 hours	70%
4	3001 - 4000 hours	90%

E. Neon and Electric Sign Electrician:

Step	Number of hours/months	Percentage of journey-level rate
1	0000 - 1000 hours	45%
2	1001 - 2000 hours	50%
3	2001 - 3000 hours	55%
4	3001 - 4000 hours	60%
5	4001 - 5000 hours	65%
6	5001 - 6000 hours	70%
7	6001 - 7000 hours	80%
8	7001 - 8000 hours	90%

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

VIII. WORK PROCESSES:

The apprentice shall receive on the job instruction and experience as is necessary to become a qualified journey-level worker versed in the theory and practice of the occupation covered by these Standards. The following is a condensed schedule of work experience, which every apprentice shall follow as closely as conditions will permit.

Employers/training agents shall only use registered apprentices to perform the work processes as stated in this section. (WAC 296-05-003 - Definitions)

<u>A. Appliance Serviceman</u>	<u>APPROXIMATE HOURS</u>
1. Orientation	1000
Use and care of tools, parts and materials. Use of test instruments (such as Volt-Ohm meters, Watt meters, etc.). Customer relations, warranty procedures, inventory control procedures, use of communication equipment, to include equipment such as two-way radio, etc.	
2. Basic Electricity	1500
Reading schematic and electric diagrams related to equipment such as refrigerators, ranges, washers, dryers, washer-dryer combinations, dishwashers, disposers, ice makers, microwave ovens, trash composters, etc.	
3. General Repair	500
Work such as repair of merchandise received in trade-in; receiving new merchandise; and preparing new merchandise for display	
4. Appliance Reconditioning	750
Methods of refinishing merchandise; parts replacement; general repair; basic soldering and brazing methods; product delivery and installation	
5. Basic Refrigeration	1250
Work in basic refrigeration using basic diagnosis and testing procedures and related tools and equipment working on merchandise such as refrigerators, ice makers, and air conditioning equipment	
6. Basic Electronics	1000
Basic electronic work related to equipment such as solid-state controls on microwave ovens, touch and cook ranges, dry heat controls, etc.	

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

<u>B. Construction and Industrial Electrician</u>	<u>APPROXIMATE HOURS</u>
1. General knowledge of materials	500
2. Residential wiring, layout and plan reading	1670
3. General commercial wiring installation, layout and plan reading	2660
4. Industrial power installation	1000
5. Motor and controls, programmable controllers, instrumentation	670
6. Bells, signals and telephone systems	670
7. Fixtures and illumination and exterior sign work	500
8. National Fire Underwriters and city electrical code requirements safety practice, first-aid and labor laws pertaining to the trade	330
TOTAL HOURS:	8,000

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

<u>C. Maintenance Electrician</u>	<u>APPROXIMATE HOURS</u>	
1. Orientation	400	
Tools of the trade, safety practices, electrical materials, electrical codes, miscellaneous		
2. Shop Work	1000	
Rehabilitation of equipment, layout and wiring of panel boards, toolroom, scrapping and cleanup, welding, miscellaneous		
3. General Plant	3000	
Placement of conduit and wire; installation and repair of lighting; installation and repair of motors and control equipment; testing and troubleshooting of equipment; familiarization with electrical equipment and materials; cranes and mobile equipment; rigging, movement and placement of equipment; shift electrician's responsibility; electrical work in connection with reduction cells; miscellaneous		
4. Preventative Maintenance	400	
Cleaning and greasing of electrical equipment; testing of electrical equipment, maintenance records, miscellaneous		
5. Rectifier station and substation	1600	
Rectifier maintenance, transformer and H.V. maintenance, H.V. lines, miscellaneous		
6. Instrumentation and Metering	1600	
Use and care of meters and instruments, calibration and repair of meters and instruments, installation and repair of equipment, preventative maintenance of meters and instruments, miscellaneous		
TOTAL HOURS:		8000

The above outline is a general description only and other items may be added by the Apprenticeship Committee as the need arises.

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

D. Motor Rewinder

APPROXIMATE HOURS

1. General operation320
 - a. Sweep, errand
 - b. Clean motors
 - c. Put away tools, materials, etc.
 - d. Salvage usable and saleable materials
 - e. Paint motors and windings
 - f. Assist other workers
 - g. Disassemble and assemble motors
 - h. Learn electrical terms, names and use of electrical equipment, tools and materials
 - i. Keep soldering equipment in good working order
 - j. Learn use of wire gauge and micrometer

2. Strip Winding320
 - a. Strip stator and armature windings
 - b. Observe and record name plate
 - c. Clean slots and frames
 - d. Clean and tip bar wound coils

3. Coil Winding1000
 - a. Check data on old coils
 - b. Wind and spread stator and armature coils
 - c. Tape and sleeve coils
 - d. Check and test armature and stator coils for size span, turn size wire, opens, shorts, make coil forms
 - e. Wind and insulate field coils
 - f. Learn relation between wire sizes and proper selection of substitute size

4. Transformers1000
 - a. Pinch and cut, clean and stack laminations
 - b. Cut insulation
 - c. Wind transformers
 - d. Tape coils
 - e. Put on leads
 - f. Assemble transformers
 - g. Test transformers for insulation breakdowns
 - h. Opens, shorts, ratio, insulation resistance, magnetizing current, iron and copper loss
 - i. Learn construction features and characteristics of series and potential, auto, insulated, single and polyphase, phase changing, spot welder, booster, line voltage regulating, transformers

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

- 5. **Repairing Direct Current Machine2000**
 - a. **Locate and repair troubles in fields, armature bearing, brush-holder, commutators**
 - b. **Wind armature**
 - c. **Rebuild commutators**
 - d. **Test armatures for shorts, open and grounded coils, shorted commutator bars**
 - e. **Replace brushes, adjust, align, stagger and locate correct brush positions**
 - f. **Remedy conditions causing sparking at brushes, racing, reduced speed, sudden reversals unsoldering of commutator leads**
 - g. **Check fields and interpoles for correct polarity and compounding**
 - h. **Check for loose armature core, commutator and field poles**
 - i. **Measure field and armature currents**
 - j. **Check air gaps**
 - k. **Band and balance armatures**
 - l. **Solder, turn and undercut commutators**
 - m. **Check armature shaft center, inspect oil rings, replace bearings, adjust end play**
 - n. **Cut out and replace armature coils**
 - o. **Reconnect armature and fields for different operating voltage or speed**
 - p. **Correct noise, vibrations and oil leakage**
 - q. **Test motors for speed, load, torque**
 - r. **Connect generators for proper direction of rotations, compoundings, parallel operations**
 - s. **Locate and repair troubles in arc welding generators**
 - t. **Equip motors and generators with proper connecting boxes**
 - u. **Check armature shaft and keyway**
 - v. **Check lubricating**
 - w. **Make temporary armature and field repairs**

- 6. **Repairing Alternative Current Machines1000**
 - a. **Locate and repair troubles in stator and motor windings**
 - b. **Slip rings, brushholders and bearings of AC machines**
 - c. **Test stators for insulation breakdown opens, shorts, wrong connection in windings, wind stators and rotors**
 - d. **Connect stator and rotors for other voltage and speeds**
 - e. **Cut out and replace coils**
 - f. **Check windings with nameplate date**
 - g. **Test motors for no load and load currents, single phasing and torque**

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

- h. Check for loose rotor stator cores, proper alignment of cores, loose slip rings, end play, shaft size, keyways, loose head bolts, oil rings and lubrication
 - i. Test squirrel cage rotors for opens, loose bars, end rings, and fans
 - j. Band and balance rotors
 - k. Replace slot wedges
 - l. Make temporary repairs to AC stator and rotor windings
7. Repairing AC and DC Controllers and Resistors500
8. Switchboards, Instruments and Meters500
- a. Connecting, use of, construction and operating of portable and switchboard types of ammeters, volt-meters, wattmeters, watt hour meters, ampere hour meters, meggers, ohmmeters, clamping transformers, current and potential transformer, shunts and multipliers, indicating integrating and recording.
 - b. Switchboard layout, construction and testing, and repair
 - c. Oil switches and circuit breakers
9. Small Motor Repairs500
- a. Locating and repairing troubles in small motors of washing machines, refrigerators, etc.
 - b. Winding stators and rotors of fractional horsepower motors; testing and checking small motors for electrical and mechanical troubles, starting torque, etc.
10. Outside Service and Repairs860
- Service and repairs to all types of electrical machinery, wiring and equipment and electronic devices related to work experience under these standards.

TOTAL HOURS: 8,000

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

E. Neon & Electric Sign Electrician **APPROXIMATE HOURS**

- 1. Service:
 - a. General knowledge of metals, as related to the trade1000
 - b. General commercial wiring installations200
 - c. Transformers - high frequency currents1000
 - d. City codes and regulations1000
 - e. Safety practice - First Aid200
 - f. Wiring on neon signs2000
 - g. Rigging and scaffolding1000

- 2. Complete knowledge of tube bending and glass welding. Chills and strains explained and likely causes of them. Layout work (block and script). Complete knowledge of operation of vacuum pumps and gauges, and the pumping of units1600

TOTAL HOURS: 8,000

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

<u>F. Radio-Television</u>	<u>APPROXIMATE HOURS</u>
1. Use of all fundamental test equipment Example: oscilloscopes, tube testers and miscellaneous test equipment	1000
2. Diagrams - methods of analyzing circuit troubles	2000
3. Familiarity with all parts and devices	2000
4. Alignment Procedure	700
5. Television antenna and installations	650
6. Auto radio installations and service	650
7. Customer relations, service, policies, warranties, part tags, and shop business methods.....	1000
TOTAL HOURS:	8,000

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

<u>G. Residential Wireman</u>	<u>APPROXIMATE HOURS</u>
1. Wiring of outlets in single family residences	1300
2. Wiring of general outlets in multiple family residence.....	500
3. Wiring of general outlets in apartment buildings.....	500
4. Wiring for service connection meters & distribution.....	300
5. Major appliance installation and service	100
6. Remodeling of residential buildings	500
7. Installation and service of TV and FM antenna systems	50
8. Installation and service of intercom systems	75
9. Installation and service of music systems	75
10. Installation, service and controls of electric heat.....	500
11. Installation, service and control of air-conditioning	100
TOTAL HOURS:	4,000

Residential wiremen apprentices will only be eligible to work on residential projects of two stories or less, not including basements.

COWLITZ AND WAHAKIYAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

<u>H. Sound Communication & Electronic Control</u>	<u>APPROXIMATE HOURS</u>
1. Methods of connections (solder, compression, etc.) and installation of PA systems from prints	350
2. Methods of connections (solder, compression, etc.) and installation of intercommunication systems from prints	350
3. Installation of low voltage	300
a. Fire alarm - from prints	
b. Burglar alarm - from prints	
4. Layout of PA	1000
a. Intercom	
b. Fire alarm	
c. Burglar alarm	
5. Installation of community antenna systems	1000
6. Repair of amplifiers, class A, B, C, and AB	1000
7. Repair of relay operated equipment	1000
a. Photo electric	
b. Thermocouple	
c. Solenoids	
8. Repair of phonographs, tape records, AM, FM radios, etc.	1350
9. Speaker reconing and microphone repair	300
10. Manual telephone	350
11. Complete automatic telephone exchange units and associated equipment	1000
TOTAL HOURS:	8,000

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

IX. RELATED/SUPPLEMENTAL INSTRUCTION:

The apprentice must attend related/supplemental instruction. Time spent in related/supplemental instruction will not be considered as hours of work, and the apprentice is not to be paid for time so spent, unless otherwise stated in these Standards.

The sponsor/training agent must provide for instruction of the apprentice during the related/supplemental instruction in safe and healthful work practices in compliance with the Washington Industrial Safety and Health Act, and applicable federal and state regulations.

In case of failure on the part of any apprentice to fulfill this obligation, the sponsor has authority to take disciplinary action (see Administrative/Disciplinary Procedures section).

Clock hours of actual attendance by the apprentice in related/supplemental instruction classes at the community/technical college or other approved training locations shall be reported to L&I on a quarterly basis for verifying attendance and industrial insurance purposes.

For industrial insurance purposes, the WSATC will be considered as the employer should any apprentice, not being paid to attend, sustain an injury while participating in related/supplemental classroom activity, or other directly related activity outside the classroom. The activities must be at the direction of the instructor.

The methods of related/supplemental training must consist of one or more of the following:

- Supervised field trips
- Approved training seminars
- A combination of home study and approved correspondence courses
- State Community/Technical college
- Private Technical/Vocational college
- Training trust
- Other (specify)

160 Minimum RSI hours per year, (see WAC 296-05-305(5))

Additional Information:

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

The Apprenticeship Committee recommends that the courses for the apprentices be limited to those who are actually apprentices to the trade in accordance with these Standards.

X. ADMINISTRATIVE/DISCIPLINARY PROCEDURES:

Sponsors may include in this section requirements and expectations of the apprentices and training agents and an explanation of disciplinary actions that may be imposed for noncompliance. The sponsor has the following disciplinary procedures that they may impose: Disciplinary Probation, Suspension, or Cancellation.

Disciplinary Probation: A time assessed when the apprentice's progress is not satisfactory. During this time the program sponsor may withhold periodic wage advancements, suspend or cancel the apprenticeship agreement, or take further disciplinary action. A disciplinary probation may only be assessed after the initial probation is completed. During the disciplinary probation, the apprentice has the right to file an appeal of the committee's action with the WSATC (as described in WAC 296-05-009).

Suspension: A suspension is a temporary interruption in progress of an individual's apprenticeship program that may result in the cancellation of the Apprenticeship Agreement. Could include temporarily not being allowed to work, go to school or take part in any activity related to the Apprenticeship Program until such time as the Apprenticeship Committee takes further action.

Cancellation: Refers to the termination of an apprenticeship agreement at the request of the apprentice, supervisor, or sponsor. (as described in WAC 296-05-009).

A. General Procedures

- 1. No apprentice will have the right to refuse job assignments within the geographical area covered by these Standards. Each apprentice shall maintain regular on-the-job attendance. Absences and/or tardiness will not be tolerated. Failure to comply with the above could be cause for the apprentice to be dropped from the program. No apprentice shall quit a job nor shall an employer fire an apprentice without either party first notifying the committee representative and giving the committee representative the opportunity to work out the problem. Failure to do so could be cause for the apprentice to be dropped from the program or the employer to be decertified as a place of training.**
- 2. The committee shall provide the Construction and Industrial Electrician apprentices a minimum of 8,000 hours of reasonably continuous employment (OJT) and shall provide for participation in an approved schedule of work**

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

experience throughout employment, supplemented by a minimum of 160 hours per year of related instruction.

3. **The Term of Apprenticeship for Construction and Industrial Electrician shall be a minimum of 8,000 hours (OJT) and 800 hours of related instruction. The Term of Apprenticeship shall be divided into a minimum of six (6) periods with advancement being contingent upon satisfactory performance in both on-the-job training and related instruction.**
4. **Construction Electricians shall be rotated from employer to employer each six (6) months when practical.**
5. **Apprentices shall attend and satisfactorily complete all related/supplemental instruction or make up missed classes in accordance with Committee policies.**

B. Local Apprenticeship Committee Policies

NONE

C. Complaint and Appeal Procedures:

All approved programs must establish procedures explaining the program's complaint review process. Complaints that involve matters covered by a collective bargaining agreement are not subject to the complaint review procedures in this section.

Complaint (after initial probation completed) – WAC 296-05-009 and 296-05-316(21)

- Prior to: 20 days of intention of disciplinary action by a committee/organization
- Committee/organization must notify the apprentice in writing of action to be taken
 - Must specify the reason(s) for discipline, suspension, or cancellation
 - Decision will become effective immediately
 - Written reason(s) for such action will be sent to the apprentice

- Within: 30 days request for reconsideration from the committee
- Apprentice to request local committee to reconsider their action

- Within: 30 days of apprentice's request for reconsideration
- Local committee/organization must provide written notification of their final decision

If apprentice chooses to pursue the complaint further:

- Within: 30 days of final action

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

- Apprentice must submit the complaint in writing to the supervisor (L&I)
- Must describe the controversy and provide any backup information
- Apprentice must also provide this information to the local committee/organization

Within: 30 days for supervisor to complete investigation

- If no settlement is agreed upon during investigation, then supervisor must issue a written decision resolving the controversy when the investigation is concluded

If the apprentice or local committee/organization disputes supervisor decision:

Within: 30 days of supervisor's decision, request for WSATC hearing

- Request must be in writing
- Must specify reasons supporting the request
- Request and supporting documents must be given to all parties
- WSATC must conduct the hearing in conjunction with the regular quarterly meeting

Within: 30 days after hearing

- WSATC to issue written decision

XI. COMMITTEE – RESPONSIBILITIES AND COMPOSITION

NOTE: The following is an overview of the requirements associated with administering an apprenticeship committee and/or program. These provisions are to be used with the corresponding RCW and/or WAC.

The sponsor is the policymaking and administrative body responsible for the operation and success of this apprenticeship program. A committee is responsible for the day-to-day operations of the apprenticeship program and they must be knowledgeable in the process of apprenticeship and/or the application of Chapter 49.04 RCW and Chapter 296-05 WAC. Sponsors must develop procedures for:

- A. Committee Operations (WAC 296-05-316): (Not applicable for Plant Programs)
Convene meetings at least three times per year of the program sponsor and apprenticeship committee attended by a quorum of committee members as defined in the approved Standards. If the committee does not indicate its definition of quorum, the interpretation will be “50% plus 1” of the approved committee members. Conference call meetings may be conducted in lieu of regular meetings but must not exceed the number of attended meetings and no disciplinary action can be taken during conference call meetings.

COWLITZ AND WAHAKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

B. Program Operations (Chapter 296-05 WAC - Part C & D):

1. The sponsor will record and maintain records pertaining to the local administration of the apprenticeship program and make them available to the WSATC or its representative on request.

Records required by WAC 296-05-400 through 455 (see Part D of Chapter 296-05 WAC) will be maintained for five (5) years; all other records will be maintained for three (3) years.

2. The sponsor will submit to L&I through the assigned state apprenticeship coordinator the following list:

Forms are available on line at <http://www.LNI.wa.gov/scs/apprenticeship> or from your assigned apprenticeship coordinator.

- Apprenticeship Agreement Card – within first 30 days of employment
 - Authorization of Signature - as necessary
 - Authorized Training Agent Agreements (committee approving or canceling) – within 30 days
 - Apprenticeship Committee Meeting Minutes – within 30 days of meeting (not required for Plant program)
 - Change of Status – within 30 days of action by committee, with copy of minutes
 - Journey Level Wage – at least annually, or whenever changed
 - Revision of Standards and/or Committee Composition - as necessary
 - RSI (Quarterly) Reports:
 - 1st quarter: January through March, by April 10
 - 2nd quarter: April through June, by July 10
 - 3rd quarter: July through September, by October 10
 - 4th quarter: October through December, by January 10
3. Adopt, as necessary, local program rules or policies to administer the apprenticeship program in compliance with these Standards that must be submitted for L&I approval and updating these Standards. The L&I apprenticeship program manager may administratively approve requests for revisions in the following areas of the Standards:
 - Program name
 - Section III: Conduct of Program Under Washington Equal Employment Opportunity Plan
 - Section VII: Apprentice Wages and Wage Progression
 - Section IX: Related/Supplemental Instruction
 - Section XI: Committee - Responsibilities and Composition (including opening statements)
 - Section XII: Subcommittees
 - Section XIII: Training Director/Coordinator

COWLITZ AND WAHAKIYAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

C. Management of Apprentices:

1. Each apprentice (and, if under 18 years of age, the parent or guardian) will sign an apprenticeship agreement with the sponsor, who will then register the agreement, with L&I before the apprentice attends the related/supplemental instruction classes, or within the first 30 days of employment as an apprentice. For the purposes of industrial insurance coverage and prevailing wage exemption under RCW 39.12.021, the effective date of registration will be the date the agreement is received by L&I.

L&I must be notified within 30 days of program approval, of all requests for disposition or modification of agreements, with a copy of the committee minutes approving the changes, which may be:

- Certificate of completion
 - Additional credit
 - Suspension (i.e. military service or other)
 - Reinstatement
 - Cancellation and/or
 - Corrections
2. Rotate apprentices in the various processes of the skilled occupation to ensure the apprentice is trained to be a competent journey-level worker.
 3. Periodically review and evaluate apprentices before advancement to the apprentice's next wage progression period. The evidence of such advancement will be the record of the apprentice's progress on the job and during related/supplemental instruction.
 4. The sponsor has the obligation and responsibility to provide, insofar as possible, continuous employment for all apprentices in the program. The sponsor may arrange to transfer an apprentice from one training agent to another, or to another sponsor when the sponsor is unable to provide reasonably continuous employment, or they are unable to provide apprentices the diversity of experience necessary for training and experience in the various work processes as stated in these Standards. The new sponsor or training agent will assume all the terms and conditions of these Standards. If, for any reason, a layoff of an apprentice occurs, the apprenticeship agreement will remain in effect unless canceled by the sponsor.
 5. An apprentice who is unable to perform the on-the-job portion of apprenticeship training may, if the apprentice so requests and the sponsor approves, participate in related/supplemental instruction, subject to the apprentice obtaining and providing to the sponsor written requested document/s for such participation. However, time spent will not be applied toward the on-the-job portion of apprenticeship training.
 6. Hear and adjust all complaints of violations of apprenticeship agreements.

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

7. Upon successful completion of apprenticeship, as provided in these Standards, and passing the examination that the sponsor may require, the sponsor will recommend that the WSATC award a Certificate of Completion of Apprenticeship. The program will make an official presentation to the apprentice that has successfully completed his/her term of apprenticeship.

D. Training Agent Management:

1. Offer training opportunities on an equal basis to all employers and apprentices. Grant equal treatment and opportunity for all apprentices through reasonable working and training conditions and apply those conditions to all apprentices uniformly. Provide training at a cost equivalent to that incurred by currently participating employers and apprentices. Not require an employer to sign a collective bargaining agreement as a condition of participation.
2. Determine the adequacy of an employer to furnish proper on-the-job training in accordance with the provisions of these Standards. Require all employers requesting approved training agent status to complete an approved training agent agreement and comply with all federal and state apprenticeship laws and the appropriate apprenticeship Standards.
3. Submit approved training agent agreements to the department with a copy of the agreement and/or the list of approved training agents within thirty days of committee approval. Submit rescinded approved training agent agreements and/or the list of approved training agents to the department within thirty days of said action.

E. Composition of Committee: (see WAC 296-05-313)

Apprenticeship committees must be composed of an equal number of management and non-management representatives composed of at least four members but no more than twelve. If the committee does not indicate its definition of a quorum, the interpretation will be "50% plus 1" of the approved committee members.

Apprenticeship committees shall elect a chairperson and a secretary who shall be from opposite interest groups, i.e., chairperson-employers; secretary-employees, or vice versa; EXCEPT, this does not apply where the Registration Agency represents the apprentice(s).

For plant programs the WSATC or the department designee will act as the employee representative.

The Apprenticeship Committee shall be composed of six (6) members. Three (3) representing management (NECA) and three (3) representing labor (IBEW). Selection of individual members will be made from the groups they represent.

COWLITZ AND WAHKIAKUM COUNTIES ELECTRICAL WORKERS
APPRENTICESHIP COMMITTEE

Quorum: **A quorum shall consist of at least two (2) members from each side.**

Program type administered by the committee: **GROUP JOINT**

The employer representatives shall be:

Chet Wornick, Secretary
1425 G. Alabama Street
Longview, WA 98632

Andy Busack
1011 Third Avenue
Longview, WA 98632

Larry Timmons
2300 Tally Way
Kelso, WA 98626

The employee representatives shall be:

Mike Sinclair, Chair
1145 Commerce Avenue
Longview, WA 98632

Brian McElligott
1145 Commerce Avenue
Longview, WA 98632

Christena Daniels
262 White Road
Castle Rock, WA 98611

XII. SUBCOMMITTEE:

Subcommittee(s) approved by L&I, represented equally from management and non-management, may also be established under these Standards, and are subject to the main committee. All actions of the subcommittee must be approved by the main committee.

NONE

XIII. TRAINING DIRECTOR/COORDINATOR:

The sponsor may employ a person(s) as a full or part-time training coordinator(s)/training director(s). This person(s) will assume responsibilities and authority for the operation of the program as are delegated by the sponsor.

Mike Sinclair, Coordinator
1145 Commerce Avenue
Longview, WA 98632